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**Notice of Allowability**

Application No.

10/032,105

Examiner

Yemane M. Gereziher

Applicant(s)

ZHU ET AL.

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/27/2007.
2. ☒ The allowed claim(s) is/are 1, 4-8, and 18-22 (renumbered 1-11) are allowed.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
WILLIAM W. ADAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Joel D. Youngs (Reg. No.: 52,389) on September 20, 2007.

The application has been amended as follows:

#### **In the claims:**

- Please cancel claims 2 and 3, and amend claims 1, 4 and 18 as follows:

1. (Currently Amended) A resource assignment method comprising:  
establishing a resource model;  
acquiring an application model, wherein said application model describes a plurality of application functional components and includes information about which application functional components communicate with each other;  
obtaining a set of parameters associated with topology and performance characteristics of resources in a data center, said parameters comprising:  
a number of edge switches, a number of rack switches, a number of server nodes, and connectivity matrices between different layers; and

a specification of the bandwidth limits of the incoming and outgoing links at various layers of the network;  
acquiring information about resource requirements of an application;  
and  
utilizing a ~~generic~~ mapping process to map said application model onto said resource model, wherein said ~~generic~~ mapping process is directed to increasing the optimization of resource utilization through appropriate assignment of resources to an application by identifying infeasible networked resources and partitioning the available networked resources with respect to desired objectives and wherein said ~~generic~~ mapping process is enabled to map a first application model onto a first resource model and a second application model onto a second resource model.

4. (currently amended) The resource assignment method of Claim [[2]] 1 wherein said information about resource requirements of an application include:

a number of application functional components;  
a network traffic requirements between said application functional components; and  
upper and lower bounds on server attributes which are required for said server to host said application functional component.

18. (Currently Amended) A resource allocation system comprising:

a means for gathering information parameters associated with topology and performance characteristics of available networked resources, said parameters comprising:

a number of edge switches, a number of rack switches, a number of server nodes, and connectivity matrices between different layers; and  
a specification of the bandwidth limits of the incoming and outgoing links at various layers of the network;

a means for extracting information associated with application functional components and resource requirements; and

a means for assigning application functional components to said available networked resources including a means identifying infeasible networked resources and partitioning the available networked resources in accordance with a resource allocation variable, wherein said means for assigning uses information about which application functional components communicate with each other as a part of assigning said application functional components to said available networked resources and wherein said means for assigning enables ~~generically~~ assigning first information associated with a first set of available networked resources with first information associated with a first set of application functional components and ~~generically~~ assigning second information associated with a second set of available networked resources with

Art Unit: 2144

second information associated with a second set of application functional components.

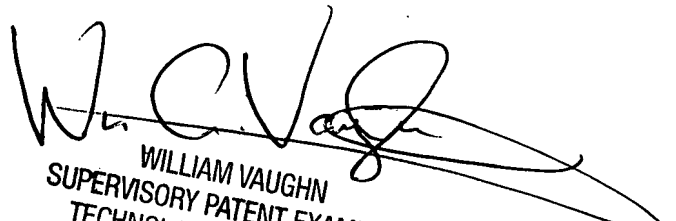
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yemane M. Gerezgiher whose telephone number is (571) 272-3927. The examiner can normally be reached on 9:00 AM - 6:00 PM Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached at (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YMG

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